SSM-566US

Appln. No.: 10/587,923

Amendment Dated May 24, 2010

Reply to Office Action of December 24, 2009

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

- 1. (Currently Amended) A shrinkage disc unit assembly, comprising:
 - a) a rotational body comprising a circumferential outer surface;
 - a hub surrounding the rotational body and comprising a circumferential inner surface which together with the circumferential outer surface forms an inclined joint between the rotational body and the hub, wherein the hub can be shrunk onto the rotational body at the joint;
 - a fluid channel leading through the rotational body or the hub, for charging the joint with a pressurized fluid;
 - d) and a fixing structure assembly which is formed by one of the rotational body and the hub, alone or in combination with the other, and by means of which a tool can be axially supported either on the rotational body or the hub and fixed only in a predetermined rotational angular position on the rotational body and/or the hub, for assembling and/or disassembling the hub
 - e) wherein the rotational body and/or the hub is or are configured such that it is only
 possible to press a pressurized fluid into the joint when the tool is mounted at the
 predetermined rotational angular position on the rotational body and/or the hub; and
 - f) wherein said tool comprises
 - a) a fixing structure for positioning the tool on the rotational body or the hub at the predetermined rotational angle position and axially supporting the tool on one of the rotational body and the hub;
 - a pressure element or tensile element, supported by the fixing structure such that it can be moved, by means of which, when a fixing part is axially supported on one of the rotational body and the hub, the other of the rotational body and the hub can be charged with an axial force; and
 - c1) a fluid channel formed in the tool and, when the tool is fixed, connected to the fluid channel of the shrinkage disc unit such that the joint can be charged with the pressurized fluid through the fluid channel of the tool, or
 - c2) a sealing mechanism formed by the tool, for sealing off the fluid channel of the shrinkage disc unit:

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—wherein the fixing structure is an annular body and bears a number of sub-assemblies which apply axial forces between the hub and rotational body for assembly thereof, the sub-assemblies for applying the axial forces are embodied as hydraulic cylinders which consist substantially of cylindrical bores comprising a pressure port and of pistons, and wherein the fixing structure is embodied in one or more parts.

- (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the ioint is conical at least in segments.
- (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein a supporting collar is formed on either the rotational body or the hub and supports the tool in a positive lock.
- 4. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein a positioning element is formed as a cavity or protrusion on either the rotational body or the hub and is configured to engage a positioning element of the tool, formed as a protrusion or cavity, in order to position the tool at the predetermined rotational angular position.
- (Previously Presented) The shrinkage disc unit assembly according to claim 4, wherein the positioning element is arranged near to a port of the fluid channel of the shrinkage disc unit.
- 6. (Cancelled)
- 7. (Cancelled)
- 8. (Cancelled)
- 9. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the tool comprises one or more protruding or retracted portions which engage with a corresponding number of portions of one of the rotational body and the hub, substantially congruent with respect to the portion or portions of the tool, when fastening the tool, wherein the configuration and arrangement of the portions only allows the tool to be fastened such that the tool is at the predetermined rotational angular position.

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- 10. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the tool is forced to be properly fastened to one of the rotational body and the hub by the configuration of the tool and said one of the rotational body and the hub.
- 11. (Withdrawn Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the tool can be or is connected to one of the rotational body and the hub in a non-positive lock via a number of tensile screws.
- 12. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the tool is connected to one of the rotational body and the hub in a positive lock via at least one groove at least partially encircling an outer surface of said one of the rotational body and the hub and at least one portion of the tool engaging the at least one groove in a positive lock.
- 13. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the tool is connected to said one of the rotational body and the hub in a frictional lock by surface contact.
- 14. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein:
 - a) the joint is charged with pressurized fluid via a supply conduit which is integrated into one of the rotational body and the hub and via a supply conduit which is integrated into the tool:
 - and wherein there is a connection between the supply conduits when the tool is properly fastened to said one of the rotational body and the hub.
- 15. (Withdrawn Previously Presented) The shrinkage disc unit assembly according to claim 14, wherein:
 - a) the rotational body includes a shaft and a tensioning sleeve and the joint is charged with pressurized fluid via a supply conduit which is integrated into the shaft, via a supply conduit which is integrated into the tensioning sleeve and connected to the supply conduit of the shaft, and via a supply conduit which is integrated into the tool;
 - and wherein there is a connection between the supply conduits when the tool is properly fastened to the shaft.

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16. (Withdrawn - Currently Amended) The shrinkage disc unit assembly according to claim 1,

wherein the joint is charged with pressurized fluid via a supply conduit which is integrated

in said one of the rotational body and the hub and via a supply conduit formed by a

component of the tool, wherein the component is connected indirectly or directly to athe

fixing structure of the tool.

17. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 16,

wherein the supply conduit formed in the tool is formed by the longitudinal bore of a screw-

in lance.

18. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 17,

wherein the end of the screw-in lance facing the rotational axis comprises a conical trunnion which, once the tool has been attached to one of the rotational body and the hub , comes to

rest on the congruent wall of a bore when the screw-in lance is screwed into the installation

hore.

19. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 18,

wherein the bore of said one of the rotational body and the hub is inserted substantially

flush with the radial bore, and wherein there is a connection to the radial bore.

20. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 18,

wherein the conical trunnion coming to rest on the wall seals off the screw-in lance from

said one of the rotational body and the hub, preventing pressurized fluid from escaping into

the surroundings of the shrinkage disc unit.

21. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein a pressurized fluid supply conduit formed in the tool is formed by the conduit

channel of a tube.

22. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 21,

wherein one end of the tube is connected, permanently and pressure-sealed, to an element.

23. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein the other end of the tube is indirectly or directly connectable to a pressure port.

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24. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22, wherein the element surrounds the end of the tube, wherein the opening of the conduit

channel is not blocked.

25, (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 21,

wherein the tube is indirectly or directly connectable to the fixing structure of the tool.

26. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein once the tool has been attached to said one of the rotational body and the hub, the element comes to rest on the wall of a bore, when a pressure piece provided with an outer

thread is screwed into the inner thread of the installation hore.

27. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 21,

wherein the bore is inserted, substantially flush with the radial bore, into said one of the

rotational body and the hub, wherein there is a connection to the radial bore.

28. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein the element coming to rest on the wall seals off the tube from said one of the

rotational body and the hub, preventing pressurized fluid from escaping into the

surroundings of the shrinkage disc unit.

29. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein the pressure piece is connected indirectly or directly to the element.

30. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein the pressure piece is connected to the element via an axial spring element and via

a pressure sleeve.

31. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 30,

wherein the tube is guided through a bore of the pressure sleeve.

32. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein

when the shrinkage disc unit is assembled, the hub is secured against axially shifting along

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the centre axis of the rotational body in a positive lock on the rotational body via a number of securing elements, wherein the securing elements are secured in their position on one of the rotational body and the hub in a non-positive lock or/and a positive lock.

33. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the rotational body includes a shaft and a tensioning sleeve and the tensioning sleeve is prevented from axially shifting along the centre axis of the shaft by the configuration of the tensioning sleeve and the shaft.

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the circumferential outer surface and the circumferential inner surface comprise a number of congruent portions.

38. (Previously Presented) The shrinkage disc unit assembly according to claim 1, wherein the joint is circumferentially conical.

39. (Previously Presented) The shrinkage disc unit assembly according to claim 5, wherein the positioning element is arranged in a rotational angular position relative to the rotational axis which is 30° at most away from the port of the fluid channel.

40. (Cancelled)

41. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 11, wherein the tensioning sleeve has a cylindrical inner surface or a shaft.

42. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 16, wherein the supply conduit inserted in the component is arranged substantially radially with respect to the rotational axis.

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43. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 17, wherein the screw-in lance is screwed via an outer thread into an inner thread of an installation bore of the fixing structure.

44. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 43,

wherein the longitudinal extension of the installation bore is substantially radial with

respect to the rotational axis.

45. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 18,

wherein the bore is a conical bore.

46. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 22,

wherein the element is substantially spherical.

47. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 25,

wherein the longitudinal extension of the tube runs along the centre axis of an installation

bore.

48, (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 47,

wherein the installation bore is arranged substantially radially with respect to the centre

axis of said one of the rotational body and the hub.

49. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 47,

wherein the installation bore is arranged substantially radially with respect to the centre

axis of the rotational body.

50. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 26,

wherein the bore is a conical bore.

51. (Withdrawn - Previously Presented) The shrinkage disc unit assembly according to claim 27,

wherein the bore is a conical bore.

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- 52. (Withdrawn Previously Presented) The shrinkage disc unit assembly according to claim 51, wherein the bore is inserted into the rotational body.
- 53. (Currently Amended) The shrinkage disc unit assembly according to claim 341, wherein the at least one division between fixing structure parts is embodied radially with respect to the longitudinal axis of the fixing structure.
- 54. (Currently Amended) The shrinkage disc unit assembly according to claim 361, wherein the cylindrical bores are worked directly into the fixing structure.